REMARKS

Claims 1-20 are all the claims pending in the application. Claims 1-20 presently stand rejected.

The Examiner did not indicate approval of the replacement drawing filed May 27, 2004. Approval of these drawings is requested.

Claims 17-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Suzuki et al. (EP 820004).

Claims 1-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki et al. (EP 820004) in view of Parker et al. (USP 6,441,919).

For the reasons set forth below, Applicant respectfully traverses the rejections and requests favorable disposition of the application.

Claims 17-20

In regard to claims 17-20, Applicant submits that Suzuki et al. fails to teach each and every limitation recited in the claims. For example, with respect to the determination step, the grounds of rejection, at page 2 of the final office action, assert that Suzuki et al. teaches selecting an intermediate code generating means with its graphics module (GRM). The GRM module, however, merely generates PIM code from the particular plotting command expressed in the PDL. (Col. 8, lines 5-8). In other words, the GRM module does not "select" an intermediate code generating means, it merely uses the one single intermediate code generating means present in the controller.

Nowhere in Suzuki et al. is "selecting" an intermediate code generating means based on the determination of a "type of language", as claimed, either taught or suggested. As clearly disclosed in the present application, a "type" of language refers to various different kinds of printer control languages (PCL), such as ESC/Page, Post Script, and even PDL. According to the present invention, a respective intermediate code generating means corresponding to the "type" of language determined is "selected" and appropriate intermediate code is, thus, generated that is compatible with the type of language. Suzuki et al. discloses a system where the printer throughput can be increased by generating the intermediate code in the host computer, specifically in the printer driver, under certain circumstances, i.e., driver page mode, as opposed to generating the intermediate code in the printer, i.e., printer page mode.

More specifically, as disclosed in Suzuki et al., and shown in Fig. 1, an application 5 in the host computer 1 generates a call for a new print job and delivers the call (DDI call) to the printer driver 9 via the application interface (API). The printer driver then converts the DDI call to a print command that can be recognized by the printer 3. (Col. 4, lines 24-26). In other words, the printer driver 9 is specifically compatible with the type of printer that printer 3 happens to be. Printer driver 9 then outputs the print job to the printer 3 via either a high-level printer control language (PCL), such as PDL, or it transforms the PDL commands to an intermediate code (DIM). (Col. 4, lines 32-35). That is, there is only one "type" of language handled by the printer driver in Suzuki et al. and this language is PDL. Indeed, in order to achieve the stated objective of the Suzuki et al. invention, i.e., speeding up the print process, it is disclosed that some of the typical processing can be offloaded to the host computer, e.g., converting the PDL to

intermediate code, but Suzuki et al. does not anywhere disclose that various different high-level languages are processed by the host computer. Accordingly, since only one type of language, e.g., PDL, is processed by the printer driver in Suzuki et al., it is not surprising that Suzuki et al. does not disclose "selecting" an intermediate code generating means, as claimed in independent claim 17.

Consistent with the discussion above in regard to the printer driver, the GRM module cited in the grounds of rejection is located in the controller of the printer 3 and is used to convert the PDL commands to intermediate code. (Col. 8, lines 5-7). Intermediate code when generated by the printer controller, as opposed to the host printer driver, is referred to as PIM code. (Col. 4, lines 36-41). As disclosed in Suzuki et al., when the print job is desired to printed in "printer page mode", the GRM generates the PIM directly from the PDL commands delivered by the printer driver, and when "driver page mode" is desired, the GRM generates the PIM code by directly converting the DIM code delivered by the printer driver. (Col. 8, lines 14-24). The PIM code is then used to create a bit map image and the image is printed. (Col. 8, lines 25-32).

For at least the above reason, Suzuki et al. does not teach every limitation of independent claim 17 and, thus, claims 17-20 are not anticipated by Suzuki et al.

Claims 1 and 4-7

In regard to claims 1 and 4-7 (to the extent claims 4-7 depend from claim 1), Applicant submits that Suzuki et al., alone or in combination with Parker et al., fails to teach or suggest a data processing device comprising a plurality of intermediate code generators, at least one being operable to generate intermediate code compatible with the print data by performing a language

analysis of the print data. As discussed above in regard to independent claim 17, Suzuki et al. discloses a system where a single printer control language (PCL) is utilized in the host computer. The PCL, such as PDL, is then converted to an intermediate code, or not converted, depending on whether the print mode is a printer page more or a driver page mode, respectively. If the print mode is printer page mode, the PCL commands are sent unconverted to the printer where the PCL is converted to intermediate code. Alternatively, if the mode is driver page mode, the intermediate code generated by the printer driver in the host is sent to the printer. In any event, Suzuki et al. does not disclose a data processing device that comprises a plurality of intermediate code generators.

As discussed above, Suzuki et al. discloses an intermediate code generator in the host, i.e., generating DIM code, and an intermediate code generator in the printer, i.e., generating PIM code, depending on which of the two print modes is utilized. Because there is only one "type" of language processed in Suzuki et al., however, there is no need for a data processing device that comprises a plurality of code generators. Parker et al. fails to compensate for the deficiency of Suzuki et al. and, accordingly, the proposed combination of Suzuki et al. and Parker et al. does not disclose all the recited features of claim 1. For at least this reason the §103 rejection of claims 1 and 4-7 should be withdrawn.

Claims 2-7

In regard to claims 2-7 (to the extent claims 4-7 depend from claim 2), Applicant submits that Suzuki et al., alone or in combination with Parker et al., fails to teach or suggest a printer that comprises a plurality of intermediate code generators, at least one being operable to generate

intermediate code compatible with the print data by performing language analysis of the print data.

As discussed above, Suzuki et al. discloses two respective intermediate code generators in the host (DIM) and the printer (PIM). Suzuki et al. does not anywhere disclose having more than one intermediate code generator in the printer. This follows since the Suzuki et al. invention is directed to increasing printer throughput by offloading intermediate code generation under certain circumstances, i.e., driver page mode, and performing the intermediate code generation in the printer when in printer page mode.

Parker et al. fails to compensate for the deficiency of Suzuki et al. and, accordingly, the proposed combination of Suzuki et al. and Parker et al. does not disclose all the recited features of independent claim 2. For at least this reason the §103 rejection of claims 2-7 should be withdrawn.

Claims 8-12

In regard to claims 8-12, Applicant submits that Suzuki et al., alone or in combination with Parker et al., fails to teach or suggest determination means for determining the type of language of input print data, selecting from a plurality of intermediate code generating means on the basis of the determination result.

As discussed above, for example in regard to claim 17, nowhere in Suzuki et al. is "selecting" from a plurality of intermediate code generating means based on the determination of a "type of language", as claimed, either taught or suggested. Since Suzuki et al. deals with a single printer control language (PCL), the "type of language" need not be determined. Further,

since there is only one PCL, there is no need for a plurality of intermediate code generators from which one needs to be selected, based on the determination of the type of language or otherwise.

Parker et al. fails to compensate for the deficiency of Suzuki et al. and, accordingly, the proposed combination of Suzuki et al. and Parker et al. does not disclose all the recited features of independent claim 8. For at least this reason the §103 rejection of claims 8-12 should be withdrawn.

Claims 13-16

In regard to claims 13-16, Applicant submits that Suzuki et al., alone or in combination with Parker et al., fails to teach or suggest a data processing device that comprises a plurality of intermediate code generating means for generating intermediate code compatible with print data by performing language analysis of the print data, or wherein the intermediate code generating means of said data processing device other than the selected intermediate code generating means are capable of analyzing print data described in a language incompatible with said printer device alone.

As discussed above in regard to claim 1, Suzuki et al. discloses two respective intermediate code generators in the host (DIM) and the printer (PIM). Suzuki et al. does not anywhere disclose having more than one intermediate code generator in a data processing device. Parker et al. fails to compensate for this deficiency of Suzuki et al. and, accordingly, the proposed combination of Suzuki et al. and Parker et al. does not disclose all the recited features of independent claim 13. For at least this reason the §103 rejection of claims 13-16 should be withdrawn.

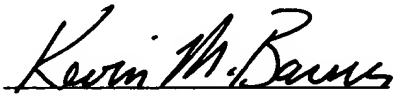
Additionally, consistent with the discussion above in regard to Suzuki et al., Suzuki et al. does not anywhere disclose an additional intermediate code generator, i.e., in addition to the one in the printer and the one in the host, that is incompatible with the printer device. Both the DIM and PIM code generators disclosed in Suzuki et al. are solely compatible with the printer. Parker et al. fails to compensate for this additional deficiency of Suzuki et al. and, accordingly, for this additional reason the §103 rejection of claims 13-16 should be withdrawn.

Conclusion

In view of the foregoing remarks, the application is believed to be in form for immediate allowance with claims 1-20, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to **contact the undersigned** at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Kevin M. Barner
Registration No. 46,075

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Attorney Docket No.: Q60222